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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/915,765 | 07/27/2001 | Heinrich Walter | 225MU/50233 | 7471 |

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EXAMINER

MEEKS, TIMOTHY HOWARD

ART UNIT PAPER NUMBER

1762

DATE MAILED: 05/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/915,765

Applicant(s)

WALTER, HEINRICH

Examiner

Timothy H. Meeks

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 May 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 10-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-17 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5. 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of claims 1-9 in Paper No. 8 is acknowledged. The traversal is on the ground(s) that the subject matter of the other group of claims is such that they should be properly examined and allowed in a single application. This is not found persuasive because the inventions are distinct and an undue burden exists to examine both inventions for the reasons set forth in Paper 7.

The requirement is still deemed proper and is therefore made FINAL.

Claims 10-17 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention.

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pillhoefer et al. (6,120,843) in view of Benden et al. (4,148,275).

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Pillhoefer et al. disclose a method for applying a chromium diffusion coating to a component, such as a turbine blade, comprising providing a mixture of chromium granules and an activator in a chamber having an inert gas atmosphere along with the components to be coated, heating the mixture to form a gaseous coating mixture including chromium chloride, and exposing the entire surface of the article to the gas mixture to form a chromium diffusion coating thereon (col. 3, lines 13-38, col. 4, lines 55-60, col. 6, lines 15-25 and 56, col. 7, lines 64-65, example 1).

Pillhoefer does not explicitly disclose a hollow turbine blade or coating internal surfaces thereof. However, because Benden et al. disclose at col. 2, lines 1-8 that it is desirable to coat internal passages of turbine blades such as cooling holes with a chromium coating to provide oxidation and/or corrosion resistance, it would have been obvious to coat turbine blades having internal cooling holes in the Pillhoefer process so as to provide a chromium diffusion coating to such internal surfaces and provide corrosion and/or oxidation protection to those surfaces. One of ordinary skill in the art would have a reasonable expectation that the Pillhoefer process would provide chromium coatings to such internal surfaces as it is conducted in a flowing gas atmosphere, Pillhoefer discloses that the coatings are provided to the **entire** surface of the component and the gas would flow into the cooling holes as the thermal convection of Pillhoefer would act to force the gas into the internal portions of the article as well.

With respect to claims 2 and 3, the mixture used in example 1 is composed of 99% chromium granules and 1% ammonium chloride activator. With respect to claim 4, the mixture is heated to 1140 C which is "approximately 1200 C". With respect to claim 5, at least some automatic dissipation of the coating gas from some points above the component pictured in Figure 1 of

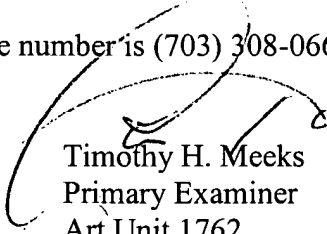
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Pillhoefer would occur automatically due to gravity. Although other forces may be in effect, gravity is also a force affecting flow of the gas. Thickness of the coating in the example is 70 microns. The chromium amount of example 1 is above the range of claim 9, however, since the chromium coating provides oxidation and/or corrosion resistance, the amount of chromium in the coating clearly affects the ability of the coating to do so. Therefore, to adjust this result effective variable to values in the claimed through routine experimentation for optimization would have been obvious.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy H. Meeks whose telephone number is (703) 308-3816. The examiner can normally be reached on Mon., Tues., Thurs.(6-6:30), Fri.(6:30-10:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive P. Beck can be reached on (703) 308-2333. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



Timothy H. Meeks
Primary Examiner
Art Unit 1762

nf
May 27, 2003